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(54) ELECTROSTATIC CHUCK

(57)Abstract:

PURPOSE: To provide an electrostatic chuck wherein its dielectric breakdown strength and its stability are excellent without lowering its attraction property and its response property and its degradation is suppressed.

CONSTITUTION: The surface of an aluminum conductor 1 as a disk-shaped electrode is covered with a ceramic flame-sprayed film 2 as an insulator, and the side face, the bottom face and the corner part are covered with a ceramic flame-sprayed film 3. The ceramic flame-sprayed film 2 to be used as the attraction part of a sample is formed in such a way that an Al_2O_3 ceramic powder containing 25wt.% or lower of TiO_2 is adjusted to obtain a volume resistivity of 10^9 to $10^{11}\Omega\cdot\text{cm}$ and that the powder is flame-sprayed onto the surface of the conductor 1. In addition, the ceramic flame-sprayed film 3 for all other parts is formed in such a way that an

Al_2O_3 ceramic powder which has been adjusted

to obtain a volume resistivity of 10^{12} to $10^{14}\Omega\cdot\text{cm}$ is flame-sprayed onto the side face, the bottom face and the corner part of the conductor 1. The sample 9 is placed on the ceramic flame-sprayed film 2, and the sample 9 is attracted and held by applying a voltage.

